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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,794	08/28/2003	Lianjun An	POU920030042US1	2005

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EXAMINER
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HUSSAIN, TAUQIR

ART UNIT	PAPER NUMBER
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2152

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/652,794	<b>Applicant(s)</b> AN ET AL.	
	<b>Examiner</b> TAUQIR HUSSAIN	<b>Art Unit</b> 2152	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/28/2003</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. This office action is in response to communication filed on 08/28/2003. Claims 1-18 are pending for examination, the rejection cited as stated below.

#### ***Objections***

2. Claim 7 is written in alternative form, “defining transformation processor configured to transform results of a query or notification on state data based on client requirements”. Examiner chooses the limitation to read as ““defining transformation processor configured to transform results of a query” for examination purposes.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. As to claim 18, In the light of specification on page 20, [0064], applicant has provided that applicant intends the medium to include transmission media as such claim is drawn to a form of signal and light waves. Carrier waves or signal does not fall into one of the four categories of invention and therefore, claim 18 is not statutory.

Transmission medium such as electromagnetic radiation is not a series of steps or acts and thus is not a process. Signal is not a physical article or object and such is not a machine or manufacture. Signal is not a combination of substances and therefore, not a composition of matter.

4. Claim 17 is rejected under 35 U.S.C 101 because the claimed invention is directed to non-statutory subject matter. As per claim 17, merely claiming as means for

where the means is implemented in software representing a computer listing *per se*, non-functional descriptive material, and is not statutory because it is not a physical “thing” nor a statutory process, as there are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed aspects of the invention which permit the computer program’s functionality to be realized. Since a program itself is not a process, without the computer-readable medium needed to realize the computer program’s functionality. In contrast, a claimed computer-readable medium encoded with a computer program defines structural and functional interrelationships between the computer program and the medium which permit the computer program’s functionality to be realized, and is thus statutory. **Warmerdam**, 33 F.3d at 1361, 31 USPQ2d at 1760. **In re Sarkar**, 588 F.2d 1330, 1333, 200 USPQ 132, 137 (CCPA 1978). See MPEP 2106(IV) (B) (1) (a).

Page 4, paragraph [0019]-[0024] of the Specification of the instant application describes that the present invention can be implemented as software, thereby rendering the “means for” language in claim 17 as computer software. **In re Donaldson Co.**, 16F.3d 1189, 29 USPQ2d 1845 (*Fed. Cir.* 1994), decided that

The “broadest reasonable interpretation” that an examiner may give means-plus-function language is that statutorily mandated in paragraph six. Accordingly, the PTO may not disregard the structure disclosed in the specification corresponding to such language when rendering a patentability determination. See MPEP 2181 also.

Therefore, giving the claims their broadest reasonable interpretation, while keeping the

structure disclosed in the specification in mind, one of ordinary skill in the art would construe claim 17 as representing a computer program per se.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3, 7-9, 11-12, 14-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Bowman et al. (Patent No.: US 6,256,773), hereinafter “Bowman”.

6. As to claims 1, 17 and 18, Bowman discloses, configuring an extensible, pluggable interface to support for extensible processor interfaces (Bowman, Col.2, lines 21-27, where different version of programs could be for different platforms which makes it platform independent and changes in the program can be interpret as state data of the service);

data query support on service state data (Bowman, Col.54, lines 48-57, where query tool is disclosed to support on service state data to include and generate reports), automated notification capability on service state to a client (Bowman, Col.113, lines 34-36, where normal and abnormal completion are the change in state results and monitoring capability receives all the notification for change in results); and

automated data transform on service state data to a client format (Bowman, Col.79, lines 44-54, where the extraction tool extracts the information from document and generate HTML format pages which can be viewable to clients);

defining an interface framework for interaction between a service and said gateway (Bowman, Col.3, lines 3-8, where in an encapsulation different objects and module are integrated to be performed by a processor and each of the module is responsible for a specific task, means there is a coordination defined between these module and objects to be processed accordingly, which is defining contacts among gateway processors);

establishing an extensible meta-data definition comprising an extensible set of service state data attributes including state data qualifiers, constraints, and access mechanisms (Bowman, Col.47, lines 51-63, where implementation list contains the qualifiers and Col.46, lines 51-54, where prescribed development methodology is data access mechanisms and Col.47, lines 4-13 are rules for processing meta-data); and

utilizing one or more pluggable processors configured to utilize said extensible meta-data definition for interfaces and decision making based on said meta-data (Bowman, Col.24, lines 50-65, where Plan program modules are rule based components which process the state data with associated rule based components).

7. As to claim 2, Bowman discloses, enabling expression of state change notification qualifiers, said qualifiers including notification of a change in state results (Bowman, Col.113, lines 34-36, where normal and abnormal completion are the change

in state results and monitoring capability receives all the notification for change in results);

enabling definition and expression of security requirements on a service state discovery and notification (Bowman, Col.17, lines 65-67 and Col.18, lines 1-16, where security audit can discover if there has been any attempt from unauthorized users or unwanted traffic and Bowman, Col.109, lines 22-28, where event notification can be a security notification);

enabling expression of transaction requirements, said transaction requirements including enable/disable transaction (Bowman, Col.19, lines 28-34, where access to repository object is a transaction and locking/unlocking to access the repository is enabling and disabling the transaction); and

providing a framework to link to a transaction coordinator and define transaction scope said transaction scope including a service developer controlled transaction (Bowman, Col.49, lines 52-56, where developers are implementing the standard of the transactions therefore, service relates to developer controlled transaction), a service controlled transaction (Bowman, Col.18, lines 34-39, where SLA is a service controlled transaction), and a gateway managed transaction on the state data of the service (Bowman, Col. 44, lines 39-42, where gateway is required to manage communication and hence obviously incorporates the transaction within).

8. As to claim 3, Bowman discloses, wherein said establishing said extensible meta-data information model includes a definition for constraints of the state data of the service (Bowman, Abstract) comprising:

enabling expression of constraints on mutability (Bowman, Col.2, lines 21-27, where updates are mutability);

enabling expression of constraints on a validity of the state data of the service through life time constraints (Bowman, Col. 22, lines 43-47, where tasks are constraints which are defined for the whole program), said life time constraints including time to activate (Bowman, Col.6, lines 13-18, where calling a program at certain time means activating the program at certain time);

enabling cardinality on said service state data (Bowman, Col.6, lines 13-18, where controlling is enabling the objects created from particular library and object could be part of state data); and

enabling and specifying a relationship among the state data of the service, said specifying supporting complex queries and state management (Bowman, Col.20, lines 49-51, where with ad hoc queries specific reports can be generated to review management flow or process flow).

9. As to claim 7, Bowman discloses, defining a transformation processor configured to transform results of a query (Bowman, Col.64, lines 1-9, where in migration process it is well known deploying an upgrade queries the existing version of software installed on client machine);

enabling a client to specify a format for results, said gateway formatting said results using an appropriate transformation processor (Bowman, Col.63, lines 49-60, where data migration control tools manage multiple versions of database and its data to ensure that accurate data and structure are maintained in the environment); and



wherein a query processor and a notification processor are configured to employ said transformation processor (Bowman, Col.63, lines 49-60, further migration control tools controlling multiple version of source code, data, and other items as they change incorporates the limitations of querying and notifying and correct format).

10. As to claim 8, Bowman discloses, obtaining a current set of state meta-data on said service (Bowman, Col.59, lines 51-56, where version numbers are retrieved);

revising meta-data about said service state data (Bowman, Col.59, lines 66-67 and Col.60, lines 1-5, where changes in meta data to evaluate the system is tracked);

establishing consistent meta-modeling techniques (Bowman, Col.60, lines 1-5, where reports are generated to evaluate the consistency in the changes applied to meta data); and

providing meta-model versioning capabilities and version compatibility to support any meta-data (Bowman, Col.60, lines 22-26, where tools are provided to control the versions and capability to support meta data).

11. As to claim 9, Bowman discloses, further including providing a framework for meta-data, and a meta-model repository to support caching capability on said service state data execution (Bowman, Col.116, lines 62-67, where operating system can be interpret as framework for metadata and tool must run in platform selected to get advantage of memory and cache can be interpret as supporting cache capability on said service state data execution).

12. As to claim 11, Bowman discloses, further including defining a meta-data language, said language comprising an annotation to existing service state data schema and a reference to said service state data and its schema (Bowman, Col.91, lines 65-67 and Col.92, lines 1-4, where disclosed is a graphical representation tool to produce structure charts, database schema diagrams and existing data layouts which can indicate relationships between modules and files or between jobs and programs).

13. As to claim 12, Bowman discloses, further including defining a flexible meta-model definition for meta-data (Bowman, Col.6, lines 5-7, where class hierarchies and containment hierarchies which are part of meta-data model provides flexible mechanism for modeling real-world objects and the relationship between them).

14. As to claim 14, The method of claim 1 further including supporting a meta-data schema processor with extensibility to support new meta-data extensions including a semantic information model on said service state data (Bowman, Col.6, lines 30-41, where class libraries relates to meta-data schema processor which gives way to new extension of class libraries which becomes complex and consists of significant collection of collaborating classes/schema to implement the common requirements to support new design for specific application).

15. As to claim 15, The method of claim 1 further including providing persistence storage for said service state data and its meta-data (Col.116, lines 22-31, where mass storage management is provided for storing service state data and meta-data), said storage facilitating recoverability and scalability on said service state data and

associated meta-data (Bowman, Col.128, lines 64-67, where database recovery is disclose to facilitate the recovery/scalability of service state data and meta-data).

16. As to claim 16, The method of claim 1 wherein said interface framework includes at least one of an interface for managing meta-data associated with said service state data (Bowman, Col.21, lines 63-67, where metadata management stores the related data of service state data in a large volume), an interface to facilitate access to gateway functionalities including query execution, semantics and to access a gateway information model, and a plug-in architecture to manage meta-data, query, notification and transform processors (Bowman, Col.22, lines 1-8, which discloses the metadata information which means accessing the gateway to extract metadata information and for extracting metadata will require a query execution and to view metadata such as, media type, usage details, media source, version control etc. will require a plug-in or module or software program which can process all said metadata information).

### ***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claim 4, is rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman as applied to claim 1-3, 7-9, 11-12 and 14-18 above in view of Bennett et al. (Patent No: US 5,852,747), hereinafter "Bennett".

19. As to claim 4, Bowman discloses the invention substantially as in parent claim 1, including, establishing a data push mechanism for service state data (Bowman, Col. 65, lines 1-7, where push mechanism is used to migrate data which could be service state data) and establishing other extensible data access mechanisms on said service state data (Bowman, Col. 92, lines 8-10, where extraction tool has access to database), said other extensible data access mechanisms including direct access to said service state data in a database (Bowman, Col. 92, lines 16-19, where creating an isolate framework for business component for not have direct access to database means ordinary there is a mechanism for direct access to database) and direct access to said service state data through SNMP, CIM, Web services (Bowman, Col. 109, lines 10-12, where SNMP is used in management application and Col. 109, lines 22-24, where web server management means inherently there is web service available, As for CIM official notice has been taken that it is well known in the art) and establishing an extensible custom template mechanism for service state data access based on service requirements (Bowman, Col. 84, lines 66-67 and Col.85, lines 1-5, where templates are provided according to the vendor services);

said service state data access based on service requirements including a service template for custom scripts (Bowman, Col. 84, lines 63-64, where custom application logic design tool is implemented).

Bowman is silent on applying callback mechanism, through metadata. However, Bennett discloses, applying callback mechanism, through metadata (Bennett, Col.4, lines 30-33, where callback mechanism is issued to get the updates).

Therefore, it would have been obvious to one ordinary skilled in the art at the time the invention was made to combine the teachings of Bowman as applied to parent claim 1 above, with the teachings of Bennett in order to provide a file management in a client/server computer system, and more particularly with read ahead cache optimizations to minimize the number of communications required between the client and the server to obtain access by the client to blocks of a shared file managed by the server (Bennett, Col.1, lines 9-14).

20. Claims 5-6, 10 and 13 are rejected under 35 U.S.C 103(a) as being unpatentable over Bowman as applied to claims 1-3 above in view of Omoigul et al. (Pub No.: US 2007/0038610 A1), hereinafter "Omoigul".

21. As to claim 10, Bowman discloses the invention substantially as in parent claim 1 above including, a Java object caching mechanism.

Bowman however is silent on disclosing explicitly, wherein said framework includes at least one of an in-memory XML DOM representation for XQuery.

Omoigul however discloses, wherein said framework includes at least one of an in-memory XML DOM representation for XQuery (Omoigul, [0290], where XQuery defined to be used in XML structure to intelligently express queries across all kind of data).

Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to combine the teachings of Bowman with the teachings of Omoigul in order to provide a information management systems and, more specifically, to an integrated and seamless implementation framework and resulting medium for knowledge retrieval, management, delivery and presentation.

22. As to claim 13, Bowman and Omoigul disclose the invention as applied to claim 10 above, including, wherein said flexible meta-model definition supports different versions of meta-data and enables consistency across meta-data modeling (Omoigul, Fig. 26, 29 and 32, where document object schema discloses, validation can be a user object schema, versioning can be extracted from fig.26 as minor and major version and compatibility can be judged by document object schema and paragraph [0212], where parameters and observed if they are consistent with the delivery.

23. As to claim 5, Bowman and Omoigul disclose the invention substantially as in claim 10 and 13 above, including, enabling a service developer to define a query type based on a state data schema definition (Omoigul, [0042], where web base query is defined by web service provider);

enabling a service user to send a state data query and query type to said service and transmitting said state data query and query type to a service state query processor (Omoigul, [0042], where issuing a query to web service provider and in response getting the results against the query means service state query processor must have processed the query);

wherein said service state query processor evaluates said query and informs said gateway with state data information to facilitate processing said query and said gateway retrieves said state data information using meta-data information of said service state data (Omoigul, [0042], where displaying or listing of search results full fills the limitations of processing and transmitting the results back to query sender);

wherein said state data information is converted to a canonical data format to facilitate comprehension by said service query processor (Omoigul, [0042], where using natural language to search obviously requires search engine to convert the natural language in to web define language and convert the results back to natural language before sending the results back to sender);

wherein said query processor conducts said query on said service state data (Omoigul, [0042], where web search engine process the query); and

wherein query results are sent back to said client in a format as requested using a transformation processor (Omoigul, where search result is sent back to the sender who initiated the query as explained above).

24. As to claim 6, Bowman and Omoigul discloses the in invention substantially as applied to claims 5, 10 and 13 above, including, enabling said gateway to define a pluggable framework for a notification processor based on notification semantics, said notification semantics including selected query criteria established by said client (Omoigul, [0054, lines 8-21], where gateway methodology describes the user customizable components and an email knowledge agent for notification based on semantic data gatherer etc.);

enabling said gateway to send notification to a client based on a state change, wherein said state change is a result of at least one of a state data push model, a state data pull model, and another state change indication (Bowman, Col.65, lines 1-5, where push, pull and state change strategies are disclosed and it is obvious in the art before push or pull mechanism there is an associated notification generation process which lets the client or user know about the state change indication); and

said notification processor is configured to utilize a transformation processor to facilitate providing state data to a client in a selected format (Bowman, Col.64, lines 1-9, where described is a multiplatform migration running multiple releases in parallel and tools are given to control the consistent migration and its dependents means each user gets the required version of software accordingly).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TAUQIR HUSSAIN whose telephone number is (571)270-1247. The examiner can normally be reached on 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571 272 3913. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 2152

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)? If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/T. H. /

Examiner, Art Unit 2152

/Bunjob Jaroenchonwanit/

Supervisory Patent Examiner, Art Unit 2152